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27141 Aliso Creek Road • Suite 270 Aliso Viejo, California 92656 USA 949.362.3077 800.477.7411 Fax 949.362.0290 April 15, 2005

Dr. Steven Speer Orange County Health Care Agency 1241 E. Dyer Road, Suite 120 Santa Ana, California 92705-5611 Sent via UPS

Subject:

Soil Sampling Report ARCO Facility No. 629 13482 Brookhurst Street Garden Grove, California OCHCA Case No. 95UT62

Dear Dr. Speer:

On behalf of Atlantic Richfield Company (ARCO), Delta Environmental Consultants, Inc. (Delta) has prepared this correspondence for ARCO Facility No. 629 (the site), located at 13482 Brookhurst Street in the City of Garden Grove, California (Figure 1). Presented in this report is a summary of the field activities and analytical results associated with the air monitoring and soil sampling conducted during repair activities associated with secondary containment piping. The purpose of the soil sampling was to fulfill the requirements of the County of Orange Health Care Agency (OCHCA) and to provide additional information regarding the subsurface conditions at the site.

BRIEF SITE HISTORY

Assessments to evaluate the distribution of fuel-related hydrocarbons and oxygenates in soil and groundwater beneath the site were initiated in September 1995. Assessment activities at the site have included the advancement of two soil borings (B-1 and B-2) and the installation of ten groundwater monitoring wells (MW-1 through MW-9, and MW-9d). Groundwater monitoring wells MW-1 through MW-9 are screened from approximately 5 to 25 feet below ground surface (bgs) and were designed to monitor shallow perched groundwater occurring at a depth of approximately 15 feet bgs. In addition, soil samples were collected from beneath the former underground storage tanks (USTs), fuel dispensers, and product piping following routine upgrades in October 1995. A quarterly groundwater monitoring program has been conducted at this site since October 1995 (Delta, 2004).

GEOLOGY AND HYDROGEOLOGY

Based upon previous site investigation activities, the subsurface lithology consists primarily of fine- to coarse-grained sand and fine-grained silty sand from the ground surface to about 10 feet bgs. From about 10 to 13 feet bgs, a layer of clay (with trace sand) has been encountered. Beneath this clay layer, a sequence of fine- to medium-



Soil Sampling Report ARCO Facility No. 629 Garden Grove, California Page 2

grained sands with minor interbedded silts is encountered to depths of about 25 feet bgs. In several borings, an additional clay or silt layer is encountered at depths of 20 to 25 feet bgs.

The site overlies the boundary of the Forebay and Pressure Sub-areas of the Orange County Groundwater Basin (Herndon, 1992). Groundwater occurs beneath the site at an average depth of about 15 feet bgs (approximately 55 feet mean sea level). Groundwater flow direction, based on data collected during the first quarter 2005, is toward the south/southwest with a hydraulic gradient of approximately 0.002 foot/foot. Historically, the groundwater flow direction beneath the site is predominantly towards the south with some historic variations to the southwest and southeast.

According to the Orange County Water District, one production well is located within one-mile of the site. Well GG-25, a large system production well, is located approximately 4,100 feet southeast of the site. This well is screened from approximately 442 to 850 feet bgs with a piezometric level of approximately 245 feet bgs.

EXCAVATION AND AIR MONITORING ACTIVITIES

On March 16 and 17, 2005, air monitoring activities were conducted during the breaking and removal of concrete, and excavation of pea gravel. Delta conducted air monitoring every 15 minutes during excavation activities according to South Coast Air Quality Management District Rule 1166. Approximately 2.5 cubic yards of concrete were removed from the site. A total of approximately 5.0 cubic yards of pea gravel were excavated, stockpiled onsite, and subsequently backfilled. A maximum volatile organic compound (VOC) concentration of 10.3 parts per million by volume was detected during excavation activities. VOC concentrations were measured using a portable photo-ionization detector calibrated to hexane. A copy of the *Soil Monitoring Records* report, dated March 24, 2005, is presented in Attachment A.

SOIL SAMPLE COLLECTION

On March 17, 2005, under the direction of Inspector Shaghayegh Rashidi-Fard of the OCHCA, a Delta representative collected three soil samples from beneath the product piping in front of the under dispenser containment sumps on three dispensers (P-1-3, P-2-3, and P-4-3), and below the product piping between two dispensers (P-3-3). The location of the soil samples are shown on Figure 2. Soil samples P-1-3 through P-4-3 were collected at a depth of approximately three feet bgs. The soil sample locations were exposed with a hand auger and the soil samples were collected by driving a brass sleeve into the auger bucket. The soil samples were then sealed, labeled, and placed in a chilled ice chest for delivery to the analytical laboratory.

SOIL SAMPLE ANALYSES

The soil samples were relinquished to Del Mar Anaytical, a California Department of Health Services-certified laboratory located in Irvine, California. Chain-of-custody procedures were followed from the time the samples were collected until the time the samples were delivered to the laboratory. The soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) according to Environmental Protection Agency (EPA) Method 8015 Modified, and for benzene, toluene, ethylbenzene, xylenes (BTEX, collectively), methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), tertiary butanol (TBA), and ethanol according to EPA Method 8260B.

SOIL SAMPLE ANALYTICAL RESULTS

Laboratory analytical results of soil samples P-1-3 through P-4-3 indicated no detectable concentrations of TPHg, BTEX, MTBE, DIPE, ETBE, TAME, TBA, and ethanol. Soil sample analytical results are summarized in Table 1, and the laboratory report and chain-of-custody documentation is included in Attachment B.

Soil Sampling Report ARCO Facility No. 629 Garden Grove, California Page 3

CONCLUSIONS

In March 2005, during routine secondary containment tightness testing, three leaks were discovered with the helium detector. To repair the leaks, the flex connections in front of dispensers 3/4 and 5/6 were tightened at the connection to the secondary product piping, and the flex connection was completely replaced in front of dispenser 11/12. No detectable concentrations of petroleum constituents were detected beneath the leaks. Therefore, on behalf of Atlantic Richfield Company, Delta requests that no further action be required of Atlantic Richfield Company in respect to the leaks discovered in the secondary containment. The site is currently an active environmental case with the OCHCA (Case No. 95UT62).

REMARKS/SIGNATURES

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are determined in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

If you have any questions concerning this report, please contact Aaron Baird at (949) 360-5795.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Aaron Baird

Project Manager

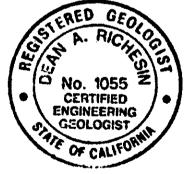
Dean A. Richesin

California Professional Geologist No. 3587

Certified Engineering Geologist No. 1055

<u>4/15/05</u>

Data



Attachments:

Figure 1

Site Location Map

Figure 2

Site Map with Sample Locations

Table 1

Soil Analytical Results

Attachment A

Soil Monitoring Records Report

Attachment B

Laboratory Report and Chain-of-Custody Documentation

cc:

Mr. Darrell Fah, Atlantic Richfield Company, La Palma, California Ms. Valerie Jahn, CRWOCB-Santa Ana Region, Riverside, California

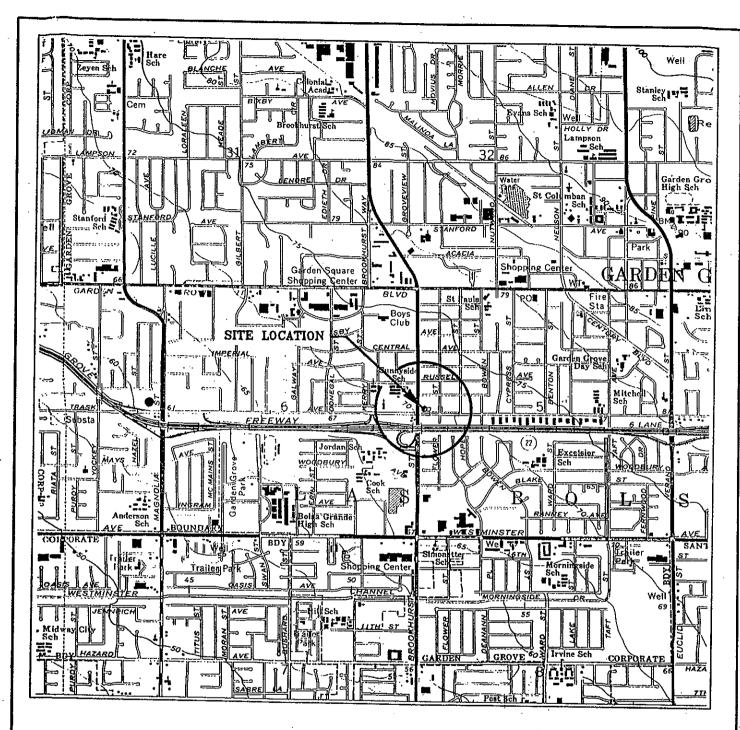
Mr. Fabio Minervini, England Geosystem, Inc. Irvine, California

Soil Sampling Report
ARCO Facility No. 629
Garden Grove, California
Page 4

REFERENCES

Delta Environmental Consultants Inc., 2004, Vertical Groundwater Assessment Report, dated April 22, 2004.

Herndon, Roy L., 1992, <u>Hydrogeology of the Orange County Groundwater Basin - An Overview</u>, South Coast Geological Society, Annual Field Trip Guide Book, No. 20.



GENERAL NOTES:
BASE MAP FROM U.S.G.S.
ANAHEIM, CA. QUADRANGLE
7.5 MINUTE TOPOGRAPHIC MAP
1965
PHOTOREVISED 1981



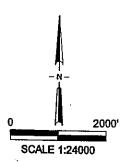
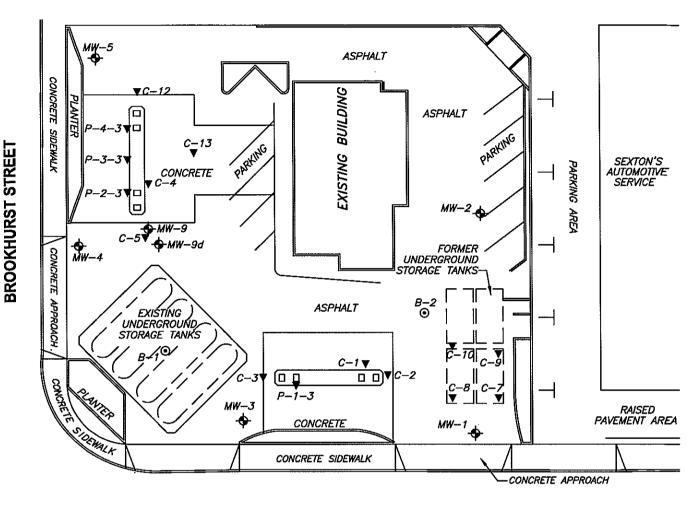


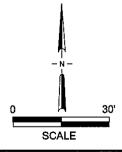
FIGURE 1 SITE LOCATION MAP ARCO FACILITY NO. 629 13482 BROOKHURST STREET GARDEN GROVE, CA.

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5-607-	67Q	P. MANNS					
DATE	REV.	REVIEWED BY					
03 JUL 02	1 1						





TRASK AVENUE



LEGEND

MW-6 ← GROUNDWATER MONITORING WELL LOCATION

P-4-3 ▼ SOIL SAMPLING LOCATION

FIGURE 2 SITE MAP WITH SOIL SAMPLE LOCATIONS ARCO FACILITY NO. 629 13482 BROOKHURST STREET GARDEN GROVE, CA.

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TABLE 1

SOIL ANALYTICAL RESULTS ARCO Facility No. 0629 13482 Brookhurst Street Garden Grove, CA

	Ethanol	(mg/kg)	ND<0.30	ND<0.27	ND<0.30	ND<0.30
	TBA	(mg/kg)	ND<0.10	ND<0.091	ND<0.10	ND<0.10
	TAME	(mg/kg)	ND<0.0050 ND<0.0050	ND<0.0045 ND<0.0045	ND<0.0050 ND<0.0050	ND<0.0050
	ETBE	(mg/kg)	ND<0.0050	ND<0.0045	ND<0.0050	ND<0.0050
EPA Method 8260B	DIPE	(mg/kg)	ND< 0.0050 ND<0.0050	ND< 0.0045 ND<0.0045	ND<0.0050 ND<0.0050	ND<0.0050 ND<0.0050
EPA Meti	MTBE	(mg/kg)	ND< 0.0050		ND<0.0050	ND<0.0050
	Xylenes	(mg/kg)	ND<0.0040	ND<0.0036	ND<0.0040	ND<0.0040
	Ethylbenzene Xylenes	(mg/kg)	ND<0.0020	ND<0.0018	ND<0.0020	ND<0.0020
	Toluene	(mg/kg)	ND<0.0020 ND<0.0020	ND<0.0018 ND<0.0018	ND<0.0020	ND<0.0020
	Benzene	(mg/kg)			ND<0.0020	ND<0.0020
Sample Date Sample EPA 8015M	TPHg	(mg/kg)	ND<1.0	ND<1.0	ND<0.88	ND<1.0
Sample	Depth	(feet)	ю	m	ы	m
Date	I.D. Sampled Depth TPHg	•	03/17/05	03/17/05	03/17/05	03/17/05
Sample	.D.		P-1-3	P-2-3	P-3-3	P-4-3

= Di-isopropyl ether	= Ethyl Tertiary Butyl Ether	= Tertiary Amyl Methyl Ether	= Tertiary Butanol	
DIPE	ETBE	TAME	TBA	mit
= Environmental Protection Agency	 Total Petroleum Hydrocarbons as gasoline 	= Milligrams per kilogram	= Methyl Tertiary Butyl Ether	= Analyte not detected at or above the reporting li
EPA	TPHg	mg/kg	MTBE	ND<1.0
Notes:				

ATTACHMENT A

Soil Monitoring Records Report



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Sent via UPS

27141 Aliso Creek Road • Suite 270 Aliso Viejo, California 92656 USA 949.362.3077 800.477.7411 Fax 949.362.0290

March 24, 2005

South Coast Air Quality Management District Engineering & Compliance Division Toxics & Waste Management Unit Rule 1166 Compliance 21865 East Copley Drive Diamond Bar, California 91765-4182

Subject:

Soil Monitoring Records Mitigation Plan No. 435655 SCAQMD Reference No. 98770 ARCO Facility No. 0629 13482 Brookhurst Street Garden Grove, California

Dear Reviewer:

This letter summarizes the air monitoring conducted during excavation activities at Atlantic Richfield Company (ARCO) Facility No. 0629 (the site), located at 13482 Brookhurst Street in the City of Garden Grove, California. Delta conducted air monitoring in accordance with Belshire Environmental Services, Inc. (Belshire) South Coast Air Quality Management District (SCAQMD) Rule 1166 Contaminated Soil Mitigation Plan (#435655). The excavation activities occurred on March 16 and 17, 2005, during dispenser upgrade activities. Belshire contacted the SCAQMD before initiation of excavation activities and reference number 98770 was issued.

On March 16 and 17, 2005, air monitoring activities were conducted during the breaking and removal of concrete, and excavation of pea gravel. Delta conducted air monitoring every 15 minutes during excavation activities according to SCAQMD Rule 1166. Approximately 2.5 cubic yards of concrete were removed from the site. A total of approximately 5.0 cubic yards of pea gravel were excavated, stockpiled on-site, and subsequently backfilled. A maximum volatile organic compound (VOC) concentration of 10.3 parts per million by volume was detected during excavation activities. VOC concentrations were measured using a portable photo-ionization detector calibrated to hexane. Soil monitoring records are presented in Attachment A.

The current site status is as follows:

VOC-Contaminated Soil Treatment Method:	N/A
Quantity of VOC-Contaminated Pea Gravel Removed:	0 cubic yards
Quantity of VOC-Contaminated Pea Gravel Backfilled:	0 cubic yards
Amount of VOC-Contaminated Soil Remaining Stockpiled On-Site:	N/A
Status of Excavation Pit:	Backfilled



Soil Monitoring Records ARCO Facility No. 0629 Garden Grove, California Page 2

If you have any questions concerning the enclosed records, please contact Aaron Baird at (949) 360-5795.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Sean Peacher

3/24/05 Date

Staff Geologist

Aaron Baird

<u>3/24/05</u> Date

Project Manager

Attachments: A

Attachment A Soil Monitoring Records

CC:

Mr. Darrell Fah, Atlantic Richfield Company, La Palma, California

Mr. Jim Brown, Belshire, Lake Forest, California

ATTACHMENT A

Soil Monitoring Records

SCAQMD RULE 1166 SOIL MONITORING RECORDS

	Company Information	Facility / Site Information				
Name: Address: City, State, Zip: I.D. No.: Mitigation Plan No.:	Belshire Environmental Services, Inc. 25971 Towne Centre Drive Lake Forest, CA 92610 142244 435655	Name: Address: City, State, Zip:	ARCO 0629 13482 Brookhurst St. Garden Grove, CA			
Reference No(s):	98770					

OVA Information	Calibration Data	Monitoring Personnel						
Brand: Rockin Elmer	Gas: Hexane	Name: Sean Peacher	VOC Conc. (ppmv)	Soil 0-50	50-1000	> 1000	Pea Gravel	Concrete/
Model: Photosac		Company: Delta Environmental	Total Cubic Yds (This page)	ø	ø	Ø.	4.5	2.0
			Total Cubic Yds (To date)	ø	ø	ø	4.5	2.0
Type: PAD	By: Sean P.	1 (()) 2 / / / / / / / / / / / / / / / / /	Removed from Site (To date)	ø	Ø	Ø	ϕ	2.0

	V00 C	-41				· · · · · · · · · · · · · · · · · · ·	·		
Time	VOC Concentr		1V) @		Time	VOC Concentr	ıv) @		
(every 15	Excava	ed Load		Comments	(every 15	Excavat			Comments
min.)	Reading	Hexane	Adjusted		min.)	Reading	Hexane	Adjusted	Comments
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11:05	<u> </u>	<u> </u>		concrete					(A)

I certify that the information contained in the above document is true and correct. I further certify that the above listed organic vapor analyzer was operated in a manner consistent with the manufacturer's specifications and the conditions specified wit

	O	• •	
SIGNATURE:	See Vaule	DATE:	3/16/05

SCAQMD RULE 1166 SOIL MONITORING RECORDS

	Company Information	Facility / Site Information						
Name:	Belshire Environmental Services, Inc.	Name:	ARCO 0629					
Address:	25971 Towne Centre Drive	Address:	13482 Brookhurst St.					
City, State, Zip:	Lake Forest, CA 92610	City, State, Zip:	Garden Grove, CA					
I.D. No.:	142244	1		•	•			
Mitigation Plan No.:	435655				•			
Reference No(s):	a8170	•		•				

OVA Information	Calibration Data	Monitoring Personnel	Excavation Summary (Upon completion of each page)						
Brand: Feth	Gas: Hexane	Name: Sean Peacher	1100 0 A \	Soil				Concrete/	
Fliner			VOC Conc. (ppmv)	0-50	50-1000	> 1000	Gravel	Asphalt	
Model: photovac	Date:3/17/05	Company: Delta Environmental	Total Cubic Yds (This page)	ø	Ø	Ø	.5	.5	
		Consultants, Inc.	Total Cubic Yds (To date)	Ø	6	Ø	5.0	2.5	
Туре: (ДД)	By: Sean P.	Phone: (949/363-33do	Removed from Site (To date)	6	0	6	6	2.5	

						/ .	7		
Time	VOC Concentr Excavat	ation (ppn ted Load	ıv) @		Time	VOC Concentra Excavat	ition (ppm ed Load	iv) @	
(every 15 min.)	Reading	Hexane Factor	Adjusted Reading	Comments	(every 15 min.)	Reading	Hexane Factor	Adjusted Reading	Comments
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I certify that the information contained in the above document is true and correct. I further certify that the above listed organic vapor analyzer was operated in a manner consistent with the manufacturer's specifications and the conditions specified wit

	So Para	2/12/25	
SIGNATURE:	Ale I Slisher	DATE: <u>3//7/05</u>	

ATTACHMENT B

Laboratory Report and Chain-Of-Custody Documentation

17461Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (999) 370-4667 FAX (949) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

Prepared For: Delta Env. Consultants - Aliso Viejo

27141 Aliso Creek Road, Suite 270

Aliso Viejo, CA 92656 Attention: Aaron Baird Project: ARCO 0629, Garden Grove

Sampled: 03/17/05 Received: 03/17/05

Issued: 03/31/05 11:52

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT:

Samples were received intact, at 4°C, on ice and with chain of custody documentation. Samples were

sealed with custody seals.

HOLDING TIMES:

All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar

Analytical Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION:

Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA:

All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS:

No significant observations were made.

SUBCONTRACTED:

No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IOC1439-01	P-1-3	Soil
IOC1439-02	P-2-3	Soil
IOC1439-03	P-3-3	Soil
IOC1439-04	P-4-3	Soil

Reviewed By:

Del Mar Analytical, Irvine

Pat Abe



17461Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Delta Env. Consultants - Aliso Viejo 27141 Aliso Creek Road Suite 270

27141 Aliso Creek Road, Suite 270 Aliso Viejo, CA 92656

Attention: Aaron Baird

Project ID: ARCO 0629, Garden Grove

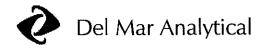
Report Number: IOC1439

Sampled: 03/17/05

Received: 03/17/05

VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOC1439-01 (P-1-3 - Soil) Reporting Units: mg/kg Volatile Fuel Hydrocarbons (C6-C12) Surrogate: 4-BFB (FID) (70-135%)	EPA 8015 Mod.	5C29007	1.0	ND 123 %	1.02	3/29/2005	3/29/2005	
Sample ID: IOC1439-02 (P-2-3 - Soil) Reporting Units: mg/kg Volatile Fuel Hydrocarbons (C6-C12) Surrogate: 4-BFB (FID) (70-135%)	EPA 8015 Mod.	5C29007	1.0	ND 100 %	1.01	3/29/2005	3/29/2005	
Sample ID: IOC1439-03 (P-3-3 - Soil) Reporting Units: mg/kg Volatile Fuel Hydrocarbons (C6-C12) Surrogate: 4-BFB (FID) (70-135%)	EPA 8015 Mod.	5C29007	0.88	ND 108 %	0.877	3/29/2005	3/29/2005	
Sample ID: IOC1439-04 (P-4-3 - Soil) Reporting Units: mg/kg Volatile Fuel Hydrocarbons (C6-C12) Surrogate: 4-BFB (FID) (70-135%)	EPA 8015 Mod.	5C29007	1.0	ND 122 %	1.02	3/29/2005	3/29/2005	



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Delta Env. Consultants - Aliso Viejo

27141 Aliso Creek Road, Suite 270 Aliso Viejo, CA 92656

Attention: Aaron Baird

Project ID: ARCO 0629, Garden Grove

Sampled: 03/17/05

Report Number: IOC1439

Received: 03/17/05

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Reporting Sample Dilution Date Data Analyte Method Batch Limit Result Factor Extracted Analyzed Qualifiers Sample ID: IOC1439-01 (P-1-3 - Soil) Reporting Units: mg/kg	Sample ID: IOC1439-01 (P-1-3 - Soil) Reporting Units: mg/kg	Method			-				
Sample ID: IOC1439-01 (P-1-3 - Soil) Reporting Units: mg/kg	Sample ID: IOC1439-01 (P-1-3 - Soil) Reporting Units: mg/kg				ACSUIT	Factor	Extracted	Anaiyzea	Qualifiers
Reporting Units: mg/kg	Reporting Units: mg/kg								
Benzene EPA 8260B 5C24031 0.0020 ND 0.949 3/24/2005 3/24/2005	Benzene	EPA 8260B	5C24031	0.0020	ND	0.949	3/24/2005	3/24/2005	
Ethylbenzene EPA 8260B 5C24031 0.0020 ND 0.949 3/24/2005 3/24/2005	Ethylbenzene	EPA 8260B	5C24031	0.0020	ND	0.949	3/24/2005	3/24/2005	
Toluene EPA 8260B 5C24031 0.0020 ND 0.949 3/24/2005 3/24/2005	-	EPA 8260B	5C24031	0.0020	ND	0.949	3/24/2005		
m,p-Xylenes EPA 8260B 5C24031 0.0020 ND 0.949 3/24/2005 3/24/2005	m,p-Xylenes	EPA 8260B	5C24031	0.0020	ND	0.949	3/24/2005		
o-Xylene EPA 8260B 5C24031 0.0020 ND 0.949 3/24/2005 3/24/2005	o-Xylene	EPA 8260B	5C24031	0.0020	ND	0.949	3/24/2005	3/24/2005	
Xylenes, Total EPA 8260B 5C24031 0.0040 ND 0.949 3/24/2005 3/24/2005	Xylenes, Total	EPA 8260B	5C24031	0.0040	ND	0.949	3/24/2005	3/24/2005	
Di-isopropyl Ether (DIPE) EPA 8260B 5C24031 0.0050 ND 0.949 3/24/2005 3/24/2005	Di-isopropyl Ether (DIPE)	EPA 8260B	5C24031	0.0050	ND	0.949	3/24/2005	3/24/2005	
Ethyl tert-Butyl Ether (ETBE) EPA 8260B 5C24031 0.0050 ND 0.949 3/24/2005 3/24/2005		EPA 8260B	5C24031	0.0050	ND	0.949	3/24/2005	3/24/2005	
tert-Amyl Methyl Ether (TAME) EPA 8260B 5C24031 0.0050 ND 0.949 3/24/2005 3/24/2005	tert-Amyl Methyl Ether (TAME)	EPA 8260B	5C24031	0.0050	ND	0.949	3/24/2005	3/24/2005	
Methyl-tert-butyl Ether (MTBE) EPA 8260B 5C24031 0.0050 ND 0.949 3/24/2005 3/24/2005	· · · · · · · · · · · · · · · · · · ·	EPA 8260B	5C24031	0.0050	ND	0.949	3/24/2005	3/24/2005	
tert-Butanol (TBA) EPA 8260B 5C24031 0.10 ND 0.949 3/24/2005 3/24/2005		EPA 8260B	5C24031	0.10	ND	0.949	3/24/2005	3/24/2005	
Ethanol EPA 8260B 5C24031 0.30 ND 0.949 3/24/2005 3/24/2005		EPA 8260B	5C24031	0.30	ND	0.949	3/24/2005	3/24/2005	
Surrogate: Dibromofluoromethane (80-125%) 96 %	Surrogate: Dibromofluoromethane (80-125%)			96 %				
Surrogate: Toluene-d8 (80-120%) 96 %	Surrogate: Toluene-d8 (80-120%)				96 %				
Surrogate: 4-Bromofluorobenzene (80-120%) 93 %	Surrogate: 4-Bromofluorobenzene (80-120%))			93 %				
Sample ID: IOC1439-02 (P-2-3 - Soil)	Sample ID: IOC1439-02 (P-2-3 - Soil)								
Reporting Units: mg/kg	- · · · · · · · · · · · · · · · · · · ·								
Benzene EPA 8260B 5C24031 0.0018 ND 0.907 3/24/2005 3/24/2005	. •	EPA 8260B	5C24031	0.0018	ND	0.907	3/24/2005	3/24/2005	
Ethylbenzene EPA 8260B 5C24031 0.0018 ND 0.907 3/24/2005 3/24/2005	Ethylbenzene	EPA 8260B	5C24031	0.0018	ND	0.907	3/24/2005	3/24/2005	
Toluene EPA 8260B 5C24031 0.0018 ND 0.907 3/24/2005 3/24/2005		EPA 8260B	5C24031	0.0018	ND	0.907	3/24/2005	3/24/2005	
m,p-Xylenes EPA 8260B 5C24031 0.0018 ND 0.907 3/24/2005 3/24/2005	m,p-Xylenes	EPA 8260B	5C24031	0.0018	ND	0.907	3/24/2005	3/24/2005	
o-Xylene EPA 8260B 5C24031 0.0018 ND 0.907 3/24/2005 3/24/2005		EPA 8260B	5C24031	0.0018	ND	0.907	3/24/2005	3/24/2005	
Xylenes, Total EPA 8260B 5C24031 0.0036 ND 0.907 3/24/2005 3/24/2005	•	EPA 8260B	5C24031	0.0036	ND	0.907	3/24/2005	3/24/2005	
Di-isopropyl Ether (DIPE) EPA 8260B 5C24031 0.0045 ND 0.907 3/24/2005 3/24/2005	•	EPA 8260B	5C24031	0.0045	ND	0.907	3/24/2005	3/24/2005	
Ethyl tert-Butyl Ether (ETBE) EPA 8260B 5C24031 0.0045 ND 0.907 3/24/2005 3/24/2005		EPA 8260B	5C24031	0.0045	ND	0.907	3/24/2005	3/24/2005	
tert-Amyl Methyl Ether (TAME) EPA 8260B 5C24031 0.0045 ND 0.907 3/24/2005 3/24/2005	- · · · · · · · · · · · · · · · · · · ·		5C24031	0.0045	ND	0.907	3/24/2005	3/24/2005	
Methyl-tert-butyl Ether (MTBE) EPA 8260B 5C24031 0.0045 ND 0.907 3/24/2005 3/24/2005		EPA 8260B	5C24031	0.0045	ND	0.907	3/24/2005	3/24/2005	
tert-Butanol (TBA) EPA 8260B 5C24031 0.091 ND 0.907 3/24/2005 3/24/2005		EPA 8260B	5C24031	0.091	ND	0.907	3/24/2005	3/24/2005	
Ethanol EPA 8260B 5C24031 0.27 ND 0.907 3/24/2005 3/24/2005	•	EPA 8260B			ND	0.907	3/24/2005	3/24/2005	
Surrogate: Dibromofluoromethane (80-125%) 108 %		6)			108 %				
Surrogate: Toluene-d8 (80-120%) 94 %		•			94 %				
Surrogate: 4-Bromofluorobenzene (80-120%) 84 %)			84 %				

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Delta Env. Consultants - Aliso Viejo

27141 Aliso Creek Road, Suite 270 Aliso Viejo, CA 92656 Attention: Aaron Baird Project ID: ARCO 0629, Garden Grove

Sampled: 03/17/05

Report Number: IOC1439

Received: 03/17/05

BTEX/OXYGENATES by GC/MS (EPA 8260B)

A., J. A.	Mathad		Reporting Limit	Sample Result	Dilution	Date Extracted	Date Analyzed	Data Qualifiers
Analyte	Method	Batch	Limit	Resuit	ractor	Extracteu	Anaiyzeu	Quantiters
Sample ID: IOC1439-03 (P-3-3 - Soil)								
Reporting Units: mg/kg								
Benzene	EPA 8260B	5C25017	0.0020	ND	0.994	3/25/2005	3/25/2005	
Ethylbenzene	EPA 8260B	5C25017	0.0020	ND	0.994	3/25/2005	3/25/2005	
Toluene	EPA 8260B	5C25017	0.0020	ND	0.994	3/25/2005	3/25/2005	
m,p-Xylenes	EPA 8260B	5C25017	0.0020	ND	0.994	3/25/2005	3/25/2005	
o-Xylene	EPA 8260B	5C25017	0.0020	ND	0.994	3/25/2005	3/25/2005	
Xylenes, Total	EPA 8260B	5C25017	0.0040	ND	0.994	3/25/2005	3/25/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5C25017	0.0050	ND	0.994	3/25/2005	3/25/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5C25017	0.0050	ND	0.994	3/25/2005	3/25/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5C25017	0.0050	ND	0.994	3/25/2005	3/25/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5C25017	0.0050	ND	0.994	3/25/2005	3/25/2005	
tert-Butanol (TBA)	EPA 8260B	5C25017	0.10	ND	0.994	3/25/2005	3/25/2005	
Ethanol	EPA 8260B	5C25017	0.30	ND	0.994	3/25/2005	3/25/2005	
Surrogate: Dibromofluoromethane (80-125%)				118%				
Surrogate: Toluene-d8 (80-120%)				106 %				
Surrogate: 4-Bromofluorobenzene (80-120%)				94 %				
Sample ID: IOC1439-04 (P-4-3 - Soil)								
Reporting Units: mg/kg								
Benzene	EPA 8260B	5C25017	0.0020	ND	0.996	3/25/2005	3/25/2005	
Ethylbenzene	EPA 8260B	5C25017	0.0020	ND	0.996	3/25/2005	3/25/2005	
Toluene	EPA 8260B	. 5C25017	0.0020	ND	0.996	3/25/2005	3/25/2005	
m,p-Xylenes	EPA 8260B	5C25017	0.0020	ND	0.996	3/25/2005	3/25/2005	
o-Xylene	EPA 8260B	5C25017	0.0020	ND	0.996	3/25/2005	3/25/2005	
Xylenes, Total	EPA 8260B	5C25017	0.0040	ND	0.996	3/25/2005	3/25/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B	5C25017	0.0050	ND	0.996	3/25/2005	3/25/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5C25017	0.0050	ND	0.996	3/25/2005	3/25/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	5C25017	0.0050	ND	0.996	3/25/2005	3/25/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	5C25017	0.0050	ND	0.996	3/25/2005	3/25/2005	
tert-Butanol (TBA)	EPA 8260B	5C25017	0.10	ND	0.996	3/25/2005	3/25/2005	
Ethanol	EPA 8260B	5C25017	0.30	ND	0.996	3/25/2005	3/25/2005	
Surrogate: Dibromofluoromethane (80-125%)				121 %				
Surrogate: Toluene-d8 (80-120%)				105 %				
Surrogate: 4-Bromofluorobenzene (80-120%)				83 %				

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Delta Env. Consultants - Aliso Viejo

27141 Aliso Creek Road, Suite 270

Aliso Viejo, CA 92656 Attention: Aaron Baird : Project ID: ARCO 0629, Garden Grove

Report Number: IOC1439

Sampled: 03/17/05

Received: 03/17/05

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 5C29007 Extracted: 03/29/05										
Blank Analyzed: 03/29/2005 (5C29007-	BLK1)									
Volatile Fuel Hydrocarbons (C6-C12)	ND	1.0	mg/kg							
Surrogate: 4-BFB (FID)	0.0597		mg/kg	0.0500		119	70-135			
LCS Analyzed: 03/29/2005 (5C29007-B	S1)									
Volatile Fuel Hydrocarbons (C6-C12)	3.51	1.0	mg/kg	4.00		88	70-135			
Surrogate: 4-BFB (FID)	0.181		mg/kg	0.150		121	70-135			
Matrix Spike Analyzed: 03/29/2005 (5C	29007-MS1)				Source: I	OC1439-0	2			
Volatile Fuel Hydrocarbons (C6-C12)	1.17	0.89	mg/kg	0.978	ND	120	55-140			
Surrogate: 4-BFB (FID)	0.0509		mg/kg	0.0444		115	70-135			
Matrix Spike Dup Analyzed: 03/29/200	5 (5C29007-M	1SD1)			Source: I	OC1439-0	2			
Volatile Fuel Hydrocarbons (C6-C12)	1.13	0.88	mg/kg	0.973	ND	116	55-140	3	35	
Surrogate: 4-BFB (FID)	0.0511		mg/kg	0.0442		116	70-135			



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Delta Env. Consultants - Aliso Viejo

27141 Aliso Creek Road, Suite 270 Aliso Viejo, CA 92656

Attention: Aaron Baird

Project ID: ARCO 0629, Garden Grove

Report Number: IOC1439

Sampled: 03/17/05

Received: 03/17/05

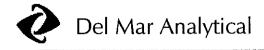
METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 5C24031 Extracted: 03/24/05										
Blank Analyzed: 03/24/2005 (5C24031-1	BLK1)									
Benzene	ND	0.0020	mg/kg							
Ethylbenzene	ND	0.0020	mg/kg							
Toluene	ND	0.0020	mg/kg							
m,p-Xylenes	ND	0.0020	mg/kg							
o-Xylene	ND	0.0020	mg/kg							
Xylenes, Total	ND	0.0040	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	mg/kg							
tert-Butanol (TBA)	ND	0.10	mg/kg							
Ethanol	ND	0.30	mg/kg							
Surrogate: Dibromofluoromethane	0.0507		mg/kg	0.0500		101	80-125			
Surrogate: Toluene-d8	0.0488		mg/kg	0.0500		98	80-120			
Surrogate: 4-Bromofluorobenzene	0.0474		mg/kg	0.0500		95	80-120			
LCS Analyzed: 03/24/2005 (5C24031-B	S1)									
Benzene	0.0511	0.0020	mg/kg	0.0500		102	70-120			
Ethylbenzene	0.0511	0.0020	mg/kg	0.0500		102	75-125			
Toluene	0.0479	0.0020	mg/kg	0.0500		96	75-120			
m,p-Xylenes	0.0983	0.0020	mg/kg	0.100		98	80-125			
o-Xylene	0.0485	0.0020	mg/kg	0.0500		97	80-125			
Xylenes, Total	0.147	0.0040	mg/kg	0.150		98	80-125			
Di-isopropyl Ether (DIPE)	0.0482	0.0050	mg/kg	0.0500		96	65-135			
Ethyl tert-Butyl Ether (ETBE)	0.0482	0.0050	mg/kg	0.0500		96	60-140			
tert-Amyl Methyl Ether (TAME)	0.0517	0.0050	mg/kg	0.0500		103	60-140			
Methyl-tert-butyl Ether (MTBE)	0.0492	0.0050	mg/kg	0.0500		98	55-145			
tert-Butanol (TBA)	0.244	0.10	mg/kg	0.250		98	70-140			
Ethanol	0.758	0.30	mg/kg	0.500		152	35-165			
Surrogate: Dibromofluoromethane	0.0504		mg/kg	0.0500		101	80-125			
Surrogate: Toluene-d8	0.0491		mg/kg	0.0500		98	80-120			
Surrogate: 4-Bromofluorobenzene	0.0481		mg/kg	0.0500		96	80-120			

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Delta Env. Consultants - Aliso Viejo

27141 Aliso Creek Road, Suite 270 Aliso Viejo, CA 92656 Attention: Aaron Baird

Project ID: ARCO 0629, Garden Grove

Sampled: 03/17/05

Report Number: IOC1439

Received: 03/17/05

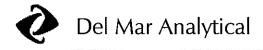
METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 5C24031 Extracted: 03/24/05										
										7.0
Matrix Spike Analyzed: 03/24/2005 (5C		0.000		0.0401		OC1439-0				LO
Benzene	0.0572	0.0020	mg/kg	0.0491	ND	116	65-130			
Ethylbenzene	0.0560	0.0020	mg/kg	0.0491	ND	114	70-135			
Toluene	0,0532	0.0020	mg/kg	0.0491	ND	108	70-125			
m,p-Xylenes	0.107	0.0020	mg/kg	0.0982	ND	109	70-130			
o-Xylene	0,0534	0.0020	mg/kg	0.0491	ND	109	70-125			
Xylenes, Total	0.160	0.0040	mg/kg	0.147	ND	109	70-130			
Di-isopropyl Ether (DIPE)	0.0550	0.0050	mg/kg	0.0491	ND	112	65-145			
Ethyl tert-Butyl Ether (ETBE)	0.0546	0.0050	mg/kg	0.0491	ND	111	60-145			
tert-Amyl Methyl Ether (TAME)	0.0565	0.0050	mg/kg	0.0491	ND	115	60-150			
Methyl-tert-butyl Ether (MTBE)	0.0538	0.0050	mg/kg	0.0491	ND	110	50-155			
tert-Butanol (TBA)	0.277	0.10	mg/kg	0.246	ND	113	65-145			
Ethanol	0.807	0.30	mg/kg	0.491	ND	164	30-165			
Surrogate: Dibromofluoromethane	0.0510		mg/kg 	0.0491		104	80-125			
Surrogate: Toluene-d8	0.0481		mg/kg	0.0491		98	80-120			
Surrogate: 4-Bromofluorobenzene	0.0458		mg/kg	0.0491		93	80-120			
Batch: 5C25017 Extracted: 03/25/05										
Blank Analyzed: 03/25/2005 (5C25017-	BLK1)									
Benzene	ND	0.0020	mg/kg							
Ethylbenzene	ND	0.0020	mg/kg							
Toluene	ND	0.0020	mg/kg							
m,p-Xylenes	ND	0.0020	mg/kg							
o-Xylene	ND	0.0020	mg/kg							
Xylenes, Total	ND	0.0040	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	mg/kg							
tert-Butanol (TBA)	ND	0.10	mg/kg							
Ethanol	ND	0.30	mg/kg							
Surrogate: Dibromofluoromethane	0.0561		mg/kg	0.0500		112	80-125			
Surrogate: Toluene-d8	0.0537		mg/kg	0.0500		107	80-120			
Surrogate: 4-Bromofluorobenzene	0.0492		mg/kg	0.0500		98	80-120			

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Delta Env. Consultants - Aliso Viejo 27141 Aliso Creek Road, Suite 270

27141 Aliso Creek Road, Suite 270 Aliso Viejo, CA 92656

Attention: Aaron Baird

Project ID: ARCO 0629, Garden Grove

Report Number: IOC1439

Sampled: 03/17/05

Received: 03/17/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

		Reporting		Spike	Source		%REC		RPD	Data
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifiers
Batch: 5C25017 Extracted: 03/25/05										
LCS Analyzed: 03/25/2005 (5C25017-B	•									
Benzene	0.0478	0.0020	mg/kg	0.0500		96	70-120			
Ethylbenzene	0.0508	0.0020	mg/kg	0.0500		102	75-125			
Тоlиеле	0.0491	0.0020	mg/kg	0.0500		98	75-120			
m,p-Xylenes	0.0991	0.0020	mg/kg	0.100		99	80-125			
o-Xylene	0.0486	0.0020	mg/kg	0.0500		97	80-125			
Xylenes, Total	0.148	0.0040	mg/kg	0.150		99	80-125			
Di-isopropyl Ether (DIPE)	0.0502	0.0050	mg/kg	0.0500		100	65-135			
Ethyl tert-Butyl Ether (ETBE)	0.0484	0.0050	mg/kg	0.0500		97	60-140			
tert-Amyl Methyl Ether (TAME)	0.0506	0.0050	mg/kg	0.0500		101	60-140			
Methyl-tert-butyl Ether (MTBE)	0.0494	0.0050	mg/kg	0.0500		99	55-145			
tert-Butanol (TBA)	0.265	0.10	mg/kg	0.250		106	70-140			
Ethanol	0.694	0.30	mg/kg	0.500		139	35-165			
Surrogate: Dibromofluoromethane	0.0565		mg/kg	0.0500		113	80-125			
Surrogate: Toluene-d8	0.0535	•	mg/kg	0.0500		107	80-120			
Surrogate: 4-Bromofluorobenzene	0.0529		mg/kg	0.0500		106	80-120			
Matrix Spike Analyzed: 03/25/2005 (50	25017-MS1)				Source: I	OC1945-0)1			
Benzene	0.0476	0.0020	mg/kg	0.0488	ND	98	65-130			
Ethylbenzene	0.0488	0.0020	mg/kg	0.0488	ND	100	70-135			
Toluene	0.0480	0.0020	mg/kg	0.0488	ND	98	70-125			
m,p-Xylenes	0.0937	0.0020	mg/kg	0.0977	ND	96	70-130			
o-Xylene	0.0455	0.0020	mg/kg	0.0488	ND	93	70-125			
Xylenes, Total	0.139	0.0040	mg/kg	0.146	ND	95	70-130			
Di-isopropyl Ether (DIPE)	0.0533	0.0050	mg/kg	0.0488	ND	109	65-145			
Ethyl tert-Butyl Ether (ETBE)	0.0516	0.0050	mg/kg	0.0488	ND	106	60-145			
tert-Amyl Methyl Ether (TAME)	0.0544	0.0050	mg/kg	0.0488	ND	111	60-150			
Methyl-tert-butyl Ether (MTBE)	0.0540	0.0050	mg/kg	0.0488	ND	111	50-155			
tert-Butanol (TBA)	0.259	0.10	mg/kg	0.244	ND	106	65-145			
Ethanol	0.579	0.30	mg/kg	0.488	ND	119	30-165			
Surrogate: Dibromofluoromethane	0.0578		mg/kg	0.0488		118	80-125			
Surrogate: Toluene-d8	0.0510		mg/kg	0.0488		105	80-120			
Surrogate: 4-Bromofluorobenzene	0.0476		mg/kg	0.0488		98	80-120			
= :										

Del Mar Analytical, Irvine

Pat Abe



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Delta Env. Consultants - Aliso Viejo 27141 Aliso Creek Road, Suite 270

Aliso Viejo, CA 92656
Attention: Aaron Baird

Project ID: ARCO 0629, Garden Grove

Report Number: IOC1439

Sampled: 03/17/05

Received: 03/17/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 5C25017 Extracted: 03/25/05										
Matrix Spike Dup Analyzed: 03/25/200	5 (5C25017-N	MSD1)			Source: I	OC1945-0	1			
Benzene	0.0459	0.0020	mg/kg	0.0481	ND	95	65-130	4	20	
Ethylbenzene	0.0481	0.0020	mg/kg	0.0481	ND	100	70-135	1	25	
Toluene	0.0471	0.0020	mg/kg	0.0481	ND	98	70-125	2	20	
m,p-Xylenes	0.0925	0.0020	mg/kg	0.0962	ND	96	70-130	i	25	
o-Xylene	0.0457	0.0020	mg/kg	0.0481	ND	95	70-125	0	25	
Xylenes, Total	0.138	0.0040	mg/kg	0.144	ND	96	70-130	1	25	
Di-isopropyl Ether (DIPE)	0.0507	0.0050	mg/kg	0.0481	ND	105	65-145	5	25	
Ethyl tert-Butyl Ether (ETBE)	0.0491	0.0050	mg/kg	0.0481	ND	102	60-145	5	30	
tert-Amyl Methyl Ether (TAME)	0.0516	0.0050	mg/kg	0.0481	ND	107	60-150	5	25	
Methyl-tert-butyl Ether (MTBE)	0.0491	0.0050	mg/kg	0.0481	ND	102	50-155	10	35	
tert-Butanol (TBA)	0.255	0.10	mg/kg	0.240	ND	106	65-145	2	30	
Ethanol	0.612	0.30	mg/kg	0.481	ND	127	30-165	6	40	
Surrogate: Dibromofluoromethane	0.0559		mg/kg	0.0481		116	80-125			
Surrogate: Toluene-d8	0.0508		mg/kg	0.0481		106	80-120			
Surrogate: 4-Bromofluorobenzene	0.0472		mg/kg	0.0481		98	80-120			



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Delta Env. Consultants - Aliso Viejo 27141 Aliso Creek Road, Suite 270 Project ID: ARCO 0629, Garden Grove

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Aliso Viejo, CA 92656

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DATA QUALIFIERS AND DEFINITIONS

LO MS and/or MSD result unavailable. Batch accept. based on LCS rec.

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For Volatile Fuel Hydrocarbons (C6-C12):

Volatile Fuel Hydrocarbons (C6-C12) are quantitated against a gasoline standard.

8015 Analysis EDF Parlabel Cross Reference

EDF

Analyte

Parlabel

Volatile Fuel Hydrocarbons (C6-C12)

GROC6C12

Del Mar Analytical, Irvine Pat Abe Project Manager



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Aliso Viejo, CA 92656 Attention: Aaron Baird Report Number: IOC1439

Received: 03/17/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	Californi
EPA 8015 Mod.	Soil	x	X
EPA 8260B	Soil	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

Del Mar Analytical, Irvine Pat Abe Project Manager Page 4 of

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Sample Point Lat/Long and Consultant/Contractor Tele/Fax: [444] 292-5083 Invoice to. Consultant/Contractor or BP/GEM (Circle one) e-mail EDD: CKUhlmann & detta env. com Miss Creek Rd. Ste. 万なっているとかなる Comments HARD Baird Time ž 3-17-0 Direction: Temp: Trip Blank Yes Temp: Date M K K Consultant/Contractor Project No.: Riso View Consultant/Contractor PM: BP/GEM Work Release No: Consultant/Contractor: Meteorological Events: Wind Speed: 27141 Requested Analysis Off- site Time: Sky Conditions: Time: oF/C Accepted By / Affiliation Address: 3n-site Cooler Temperature on Receipt 4 EPA 8270 EPA 8260 G EPA 8260 G Requested Due Date (mm/dd/yy) Shankard (10-34y) BPIGEM Facility Address: 13482 Brakhurst St. 10/M/2 Gorden Grove, CA 4 Contectional 1 a Valma, CA Date 27.7 Ron Rogers Preservatives Retail lorange HCI HINO BP/GEM Facility No: 662 9 ₹ 1 OS2H Unpreserved California Global ID #: BP/GEM PM Contact: No, of containers Retroquished By / Affiliation Laboratory No. Temperature Blank Yes_ というと Site Lat/Long: RP Edwinson Country Numbers Site ID No. Tele/Fax: Address: BP BLACKSLEE FORTIONS ARCO Send To: Bo west Coost Andwes LLC. -- Convolince πA Sie, 100 Environmenta 92614-5617 Matrix Sediments Project Name Delivery bilo2\lio2 Lab Name: Del Mac Anglutica Decino Ave. 13:25 13:42 13:34 ion leacher 13:15 261-1022 Time Custody Seals In Place Yes X No Irvine, CA Sample Description Pat Abe Shipment Tracking No: 3/10/05 Report Type & QC Level: Sampler's Company: 4-3 Lab Address: 1746 BP/GEM Account No.: 0.3.3 Special Instructions: व्यम् व Shipment Method: Lab Bottle Order No: Sampler's Name: Shipment Date: rele/Fax: Lab PM: Item Š 00 9 9